ABSTRACT OF THE DISCLOSURE

A method (300) and system for scheduling execution of activities, such as jobs of a batch processing. An estimated duration of each job is predicted (365-367) as a running average of the measured durations of completed instances of the job executed previously. The method of the invention uses historical data to identify (375-385) repeatable patterns for the job duration; for example, a decision tree is inducted using the completed instances of the job as training examples. The decision tree is applied for classifying (325) each new instance of the job to be executed, according to its planned time of execution; the estimated duration of the job is revised (330) using an adjustment factor associated with the class assigned to the new instance of the job.